

NEW DESCRIPTIONS

A NEW SPECIES OF THE GENUS *STENOMESIUS* WESTWOOD
(HYMENOPTERA: EULOPHIDAE) FROM INDIA¹MEENA AGNIHOTRI AND M.A. KHAN²¹Accepted March, 2002²Biological Control Laboratory, Department of Entomology, G.B. Pant University of Agriculture and Technology, Pantnagar 263 145, Uttaranchal, India. Email: maknan@rediffmail.com

A new species, *Stenomesus orientalis* (Hymenoptera: Eulophidae), parasitic on *Acrocercops* sp. (Lepidoptera: Gracillariidae), a pest of *Dolichos lablab* L., has been described from India. A key to the Indian species of the genus has also been provided.

Key words: Hymenoptera, Eulophidae, *Stenomesus orientalis* sp. nov., *Acrocercops* sp., *Dolichos lablab* L.

INTRODUCTION

The genus *Stenomesus* Westwood (Hymenoptera: Eulophidae) was based on a single European species *rufescens* (Rossi). Only three species of this genus are known from India. They are all primary ectoparasitoids of lepidopterous larvae, which include leaf miners belonging to families Gracillariidae, Gelechiidae, Lyonettiidae, Glyphiterygidae, Tortricidae, Pyralidae and Noctuidae (Boucek 1988).

Genus *Stenomesus* Westwood

Stenomesus Westwood. 1833b: 343. Type species *Stenomesus pulchellus* Westwood; designation by Westwood (1939).

A complete synonymy list is given by Boucek (1988: 638).

Diagnosis: The genus can easily be distinguished from allied genera by the following combination of characters: propodeum with a pair of strong median carinae well separated, bowed inwards and joined by a transverse carina (in an H-shape or X-shape); the form of the scutellum, which has a pair of sublateral furrows along the whole length, bent inwards to join before the apical margin; pronotum without transverse carina; female funicle four segmented; temples developed; thorax finely sculptured or partly smooth and shiny; petiole shorter than hind coxa; gaster elongated, first tergite short (Boucek 1988, Figs 1107, 1110).

DISCUSSION

This genus stands close to *Miotropis* Thomson 1878, but *Miotropis* has on the propodeum a pair of median carinae running very close together and converging, and on the

scutellum a pair of weak furrows which are only developed anteriorly. These characters are illustrated by Askew (1968) and the *Stenomesus* condition by Masi (1917); Subba Rao and Sharma (1966).

Kerrich (1974) further separated these two genera, *Stenomesus* having a strongly raised occipital margin and a single hind tibial spur, contrasting with an emarginated occiput and two hind tibial spurs in *Miotropis*. *Stenomesus* is more closely related to *Elachertus* Spinola than to *Miotropis* (shared characters of *Stenomesus* and *Elachertus*: more than 4 setae on mesoscutum, scutellum with complete lateral lines which curve inwardly in front of the posterior margin) but the form of the propodeum in *Stenomesus* with two strong median carinae connected before the middle in an H-shape or X-shape, separates the two clearly (Boucek 1988).

Recently, Khan (1992), and Khan and Singh (1994) described two *Stenomesus* species, namely *S. modicellus* and *S. anati* from India.

In the present study, a new species is described and a key to the Indian species provided.

Abbreviations: The following abbreviations are used in the text- F.S. I, F.S. II, F.S. III and F.S. IV - funicular segments I-IV; OOL - oculo-ocellar length, the distance between lateral ocellus and eye margin; POL - postero-ocellar length, the distance between the lateral ocelli; MV - marginal vein; PMV - postmarginal vein; SMV - submarginal vein; SV - stigmal vein.

KEY TO THE INDIAN SPECIES OF THE GENUS *STENOMESIUS*
WESTWOOD BASED ON THE FEMALE

1. Antennae light brown except scape light yellow; eyes bare; ocelli arranged in obtuse angled triangle; funicle segments variable in size; speculum greatly reduced; cubital vein sinuate 2

- Antennae black; eyes very finely pubescent; ocelli arranged in equilateral triangle; funicle segments subequal in length; speculum moderate; cubital vein straight
..... *S. japonicus* (Ashmead)
2. Head smooth, without fine reticulate sculpture; row of setae adjacent to ocular suture; SMV without a row of setae directed downwards; basal vein with a row of four setae; hindwing with blunt apex, outer plate of ovipositor with a dorsal ridge 3
- Head with fine microreticulate sculpture; no such row of setae adjacent to ocular suture; SMV with a row of five setae directed downwards near the base; basal vein with a row of five setae; hindwing with acute apex; outer plate of ovipositor without dorsal ridge *S. modicellus* Khan
3. Head with dark infuscation on middle of the face above antennal sockets, anterior half of scutum, scutellum and axillae with dark brown infuscation; pronotum with a dark patch in the middle; antennae inserted in the middle of the face; prominence between antennal sockets more than one fourth the width of frons between eyes; apex of the scape reaching well above the anterior ocellus; scape slightly curved, more than 6 times as long as wide; pedicel twice as long as wide; F.S. IV as long as F.S. II and twice as long as wide; club thrice as long as wide; mesoscutum strongly reticulate especially in the midlobe; scutellum with 3 pairs of bristles and well developed zigzag grooves from the anterior to posterior margin; mesal length of propodeum almost equivalent to length of mesoscutum; forewing 3 times as long as wide
..... *S. anati* Khan and Singh
- Head, thorax and pronotum without any infuscation; antennae inserted just below the middle of the face; prominence between antennal sockets less than one fifth the width of frons between eyes; apex of the scape not reaching above the anterior ocellus; scape cylindrical, more than 5 times as long as wide; pedicel more than twice as long as wide; F.S. IV shortest and more than 1.5 times as long as wide; club a trifle more than thrice as long as wide; mesoscutum without reticulate sculpture; scutellum with 2 pairs of prominent bristles and without well developed zigzag grooves; mesal length of propodeum distinctly slightly longer than the length of mesoscutum; forewing more than 2.5 times as long as wide
..... *S. orientalis* Agnihotri and Khan sp. nov.

Stenomesus orientalis Agnihotri and Khan sp. nov.
(Figs 1-13)

Female: Body length 1.93 mm; general body colour yellow, except gaster which has dorsal tergite slightly infuscated on both sides and with a brown spot just below centre of the gaster; eyes and ocelli red; antennae light brown, except scape which is yellow with infuscation at the apical

end; wings hyaline; legs yellow; third valvulae black.

Head (Fig. 1) much wider than long (0.51:0.36) in facial view; frontovertex much wider than long, width of frontovertex one half the total head width; ocelli arranged in obtuse angled triangle; POL longer than OOL (0.01:0.09); eyes bare, smooth; antennae inserted just below middle of face; apex of scape not reaching above anterior ocellus, prominence between antennal sockets less than one fifth the width of frons between eyes (0.06:0.29); length of malar space more than half of eye width (0.07:0.12); mandibles hexadentate (Fig. 2) with two teeth prominent and four short and saw-like; maxillary palps (Fig. 3) and labial palps (Fig. 4) 2- and 1-segmented, respectively.

Antenna (Fig. 5) densely setose, 8 segmented excluding 2 ring segments; scape more than 5 times as long as wide (0.27:0.05); pedicel more than twice as long as wide (0.10:0.04); funicle 4 segmented, F.S. I and F.S. II equal in size and more than twice as long as wide (12:0.05), F.S. III longest, 2.8 times as long as wide (0.14:0.05), F.S. IV shortest, 1.83 times as long as wide (0.11:0.06); club short, 2-segmented, more than 3 times as long as wide (0.17:0.05) with a spicule.

Thorax (Fig. 6) posterior margin of pronotum with 3 pairs of setae (Fig. 7); mesoscutum width less than twice its length (0.44:0.26) with well developed parapsidal furrows, side lobe with shoulder-like projection as shown in Fig. 6, 8 short and 4 long setae on the mesoscutum; scutellum longer than wide (0.28:0.25) with 2 pairs of long setae; axillae narrowly contiguous in the middle; propodeum highly carinated as shown in Fig 6; mesal length of propodeum slightly longer than the length of mesoscutum.

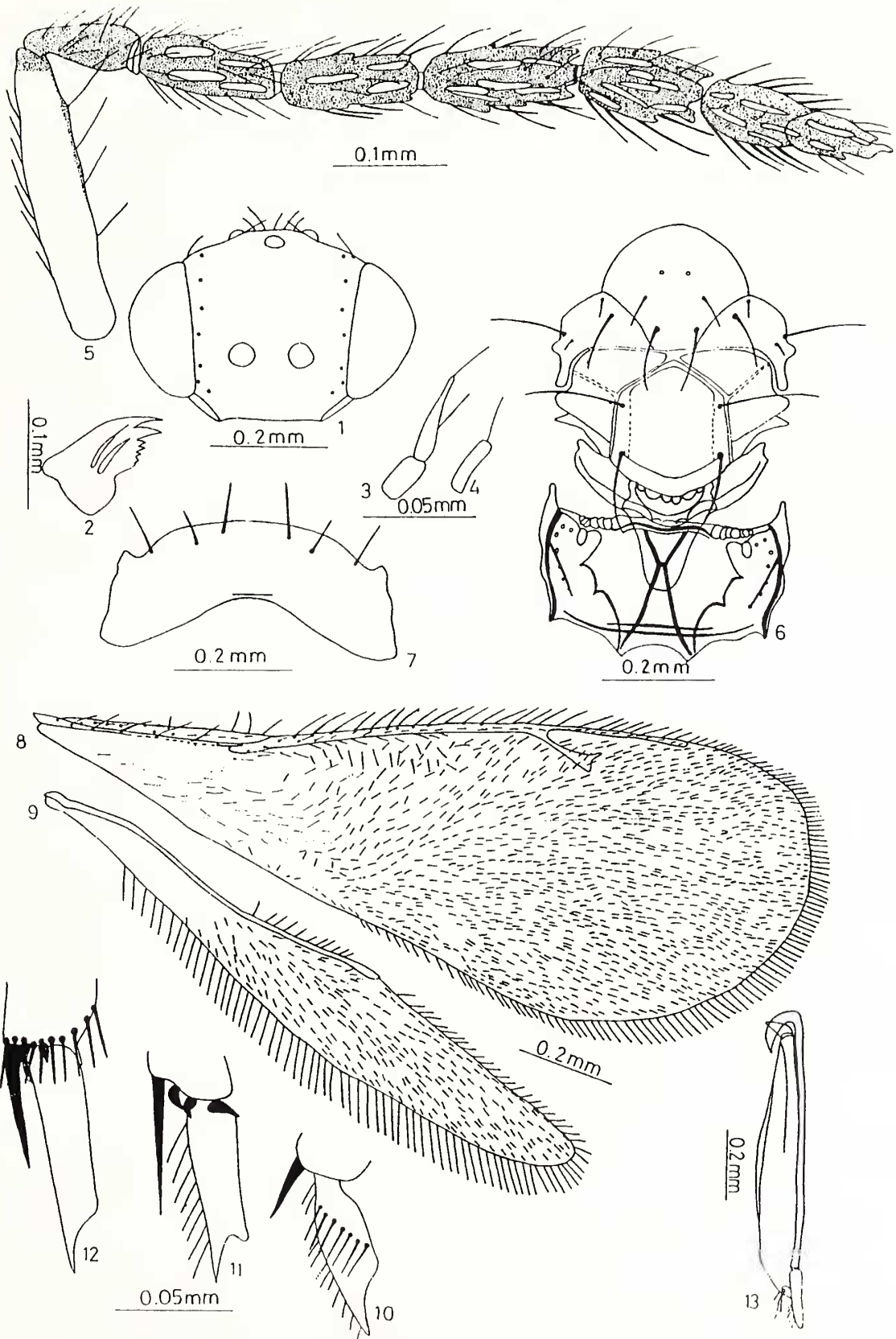
Forewing (Fig. 8) densely setose, more than 2.5 times as long as wide (1.64:0.64); costal cell moderate with 4 setae on upper margin and with a row of 14 setae on its underside; basal vein with a row of 4 setae; basal cell setose; speculum much reduced and closed below; cubital vein slightly sinuate; subcubital line of hairs moderately long near the base; an irregular row of hairs present between cubital vein and subcubital vein; SMV (0.49) with 6 long setae directed upwards and shorter than MV (0.57); PMV very long, more than twice as long as SV (0.29:0.13); marginal fringes separated by a distance equal to one fourth of their length.

Hindwing (Fig. 9) hyaline, with blunt apex, slightly more than 6.5 times as long as wide (1.33:0.20), marginal fringes separated by a distance almost equal to one fifth of their length.

Legs fore-basitarsus with an oblique row of 7 setae (Fig. 10); apical rim of midtibia with 3 pegs and long spur (Fig. 11); apical rim of hind tibia with 2 pegs and 10 setae (Fig. 12).

Gaster longer than head and thorax together; petiole short; ovipositor slightly exerted, arising from near the base;

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Figs 1-13: *Stenomesius orientalis* sp. nov.

1. Head frontal aspect; 2. Mandible; 3. Maxillary palp; 4. Labial palp; 5. Antenna; 6. Thorax, dorsal view; 7. Pronotum; 8. Fore wing; 9. Hing wing; 10. Part of fore leg; 11. Part of middle leg; 12. Part of hind leg; 13. Female genitalia

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first valvifer triangular with slight concave base (Fig. 13); third valvulae slightly less than 6 times as long as wide (0.17: 0.03) and more than one-fourth the length of second valvifer (0.74); outer plates of ovipositor as long as second valvifer.

Male: Not known

Holotype: ♀ INDIA, U.P. Haldwani, ex. *Acrocercops* sp. (Lepidoptera: Gracillariidae) ex. *Dolichos lablab* 23.v.2000. Hym. Eulo. Nr. 1006, Coll. Meena Agnihotri.

Paratypes: 3 ♀ ♀. Same data as Holotype. Hym. Eulo. Nr. 1006, Coll. Meena Agnihotri.

Holotype and Paratypes have been deposited in the Entomological Museum, G.B.P.U.A & T, Pantnagar, India.

Etymology: The species is named from its distribution in the Oriental region.

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